2010 Regional SO_2 Emissions and Milestone Report

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2010 Regional SO_2 Emissions and Milestone Report

Executive Summary

Under Section 309 of the Federal Regional Haze Rule, nine western states and tribes within those states have the option of submitting plans to reduce regional haze emissions that impair visibility at 16 Class I areas on the Colorado Plateau. Five states -- Arizona, New Mexico, Oregon, Utah, and Wyoming -- and Albuquerque-Bernalillo County initially exercised this option by submitting plans to EPA by December 31, 2003. Oregon elected to cease participation in the program in 2006 and Arizona elected to cease participation in 2010. The tribes were not subject to the deadline and still can opt into the program at any time. Under the Section 309 plans, the three participating states and Albuquerque-Bernalillo County have tracked the emissions of the applicable stationary sources as part of the pre-trigger portion of the SO_2 Milestone and Backstop Trading Program. The Western Regional Air Partnership (WRAP) is assisting these states and city with the implementation and management of the regional emission reduction program. As used in this document, Section 309 states means the states of New Mexico, Utah and Wyoming and Albuquerque-Bernalillo County.

As part of this program, the Section 309 states must submit an annual Regional Sulfur Dioxide (SO_2) Emissions and Milestone Report that compares emissions to milestones. A milestone is a maximum level of annual emissions for a given year. The first report was submitted in 2004 for the calendar year 2003.

The milestone for 2010 is 200,722. To determine whether or not the milestone was met, the 2008, 2009, and 2010 adjusted emissions from the Section 309 states were averaged, and this average was compared to the 2010 milestone. The adjustments to reported emissions were required to allow the basis of current emission estimates to be comparable to the emissions monitoring or calculation method used in the most recent base year inventory (2006).

The Section 309 states reported 130,340 tons of SO_2 emissions for the calendar year 2010. The total emissions increased to 131,124 tons of SO_2 after making adjustments to account for changes in monitoring and calculation methods. The adjustments result in an additional 784 tons of SO_2 emissions. The adjusted emissions values for 2008 and 2009 were 165,595 tons and 143,704 tons, respectively. The average of 2008, 2009, and 2010 adjusted emissions is 146,808 tons.

Based on the adjusted milestone and emissions data, the average of 2008, 2009, and 2010 emissions is about 27% below the 2010 three-state regional milestone.

Based on this average annual emissions estimate, the Section 309 states determined that emissions in 2010 are below the regional SO_2 milestone for 2010. The plans contain provisions to adjust the milestones to account for enforcement actions (to reduce the milestones where an enforcement action identified that emissions in the baseline period were greater than allowable

emissions). Based on emissions data received from the states and plan requirements regarding adjustments to the milestones, no enforcement action adjustment is required.

The plans also require that the annual report identify changes in the source population from year to year and significant changes in a source's emissions from year to year. The significant emission changes from 2009 to 2010 are included in Section 6 of this report. A list of facilities added to or removed from the list of subject sources included in the original base year inventories is included in Appendix B.

Table ES-1
Overview of 2010 Regional Milestones and Emissions for Section 309 Participating States*

2010 Sulfur Dioxide Milestones	
Regional 2010 Milestone**	200,722 tons
Adjusted 2009 Milestone	200,722 tons
2010 Sulfur Dioxide Emissions	
Reported 2010 Emissions	130,340 tons
Adjustments***	
Emission Monitoring and Calculation Methods	784 tons
Adjusted 2010 Emissions (rounded number)	131,124 tons
Average Sulfur Dioxide Emissions (2008, 2009, & 2010)	
Adjusted 2010 Emissions	131,124 tons
Adjusted 2009 Emissions	143,704 tons
Adjusted 2008 Emissions	165,595 tons
Average of 2008, 2009, & 2010 Adjusted Emissions	146,808 tons
Comparison of Emissions to Milestone	
Average of 2008, 2009, & 2010 Adjusted Emissions	146,808 tons
Adjusted Three-State 2010 Milestone	200,722 tons
Difference (Negative Value = Emissions < Milestone)	-53,915 tons
2008 – 2010 Emissions Average as Percent of 2010 Milestone	73%

* Section 309 participating states means the states of New Mexico, Utah and Wyoming and Albuquerque-Bernalillo County.
** See the Regional Milestones section of each state's 309 plan.
*** See the Annual Emissions Report section of each state's 309 plan.

2010 Regional SO_2 Emissions and Milestone Report

1.0 Introduction

1.1 Background

Under Section 309 of the Federal Regional Haze Rule (40 CFR Part 51), nine western states and the tribes within those states have the option of submitting plans to reduce regional haze emissions that impair visibility at 16 Class I areas on the Colorado Plateau. Five states -- Arizona, New Mexico, Oregon, Utah, and Wyoming -- and Albuquerque-Bernalillo County exercised this option by submitting plans to EPA by December 1, 2003. In October 2006, when EPA modified Section 309, Oregon elected to cease participation in the SO_2 Milestone and Backstop Trading Program by not resubmitting a Section 309 State Implementation Plan (SIP). In 2010, Arizona elected to cease participation in the Program. The tribes were not subject to this deadline and still can opt into the program at any time.

Under the Section 309 SIPs, these three states and one city have been tracking emissions under the pre-trigger requirements of the SO_2 Milestone and Backstop Trading Program since 2003. The Western Regional Air Partnership (WRAP) is assisting these states with the implementation and management of this regional emission reduction program.

Under the milestone phase of the program, the Section 309 states have established annual SO_2 emissions targets (from 2003 to 2018). These voluntary emissions reduction targets represent reasonable progress in reducing the emissions that contribute to regional haze. If the participating sources fail to meet the milestones through this voluntary program, then the states will trigger the backstop trading program and implement a regulatory emissions cap for the states, allocate emissions allowances (or credits) to the affected sources based on the emissions cap, and require the sources to hold sufficient allowances to cover their emissions each year.

This report is the eighth annual report for the milestone phase of this program. The report provides background on regional haze and the Section 309 program, the milestones established under the program, and the emissions reported for 2010. Based on the first eight years, the voluntary milestone phase of the program is working and emissions are well below the target levels.

What is Regional Haze?

Regional haze is air pollution that is transported long distances and reduces visibility in national parks and wilderness areas across the country. Over the years, this haze has reduced the visual range from 145 kilometers (90 miles) to 24 – 50 kilometers (15 – 31 miles) in the East, and from 225 kilometers (140 miles) to 56 – 145 kilometers (35 – 90 miles) in the West. The pollutants that create this haze are sulfates, nitrates, organic carbon, elemental carbon, and soil dust. Human-caused haze sources include industry, motor vehicles, agricultural and forestry burning, and windblown dust from roads and farming practices.

What U.S. EPA Requirements Apply?

In 1999, the Environmental Protection Agency (EPA) issued regulations to address regional haze in 156 national parks and wilderness areas across the country. These regulations were published in the Federal Register on July 1, 1999 (64 FR 35714). The goal of the Regional Haze Rule (RHR) is to eliminate human-caused visibility impairment in national parks and wilderness areas across the country. It contains strategies to improve visibility over the next 60 years, and requires states to adopt implementation plans.

EPA's RHR provides two paths to address regional haze. One is 40 CFR 51.308 (Section 308), and requires most states to develop long-term strategies out to the year 2064. These strategies must be shown to make "reasonable progress" in improving visibility in Class I areas inside the state and in neighboring jurisdictions. The other is 40 CFR 51.309 (Section 309), and is an option for nine states -- Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming -- and the 211 tribes located within these states to adopt regional haze strategies for the period from 2003 to 2018. These strategies are based on recommendations from the Grand Canyon Visibility Transport Commission (GCVTC) for protecting the 16 Class I areas on the Colorado Plateau. Adopting these strategies constitutes reasonable progress until 2018. These same strategies can also be used by the nine western states and tribes to protect the other Class I areas within their own jurisdictions.

EPA revised the RHR on July 6, 2005 (70 FR 39104), and again on October 13, 2006 (71 FR 60612) in response to two legal challenges. The October 13, 2006, revisions modified Section 309 to provide a methodology consistent with the Court's decision for evaluating the equivalence of alternatives to Best Available Retrofit Technology (BART), such as the alternative Section 309 strategy based on the GCVTC recommendations.

How Have the WRAP States Responded to EPA Requirements?

Of the nine states (and tribes within those states) that have the option under Section 309 of participating in a regional strategy to reduce SO_2 emissions, five states had originally submitted Section 309 SIPs to EPA. These states were Arizona, New Mexico, Oregon, Utah, and Wyoming. In addition, Albuquerque-Bernalillo County had also submitted a Section 309 SIP. EPA, however, never approved these SIPs due to the legal challenges.

Oregon and Arizona have opted out of submitting a revised Section 309 SIP under the modified RHR, which leaves three participating states and Albuquerque-Bernalillo County. To date, no tribes have opted to participate under Section 309 and the other four states of the original nine opted to submit SIPs under Section 308 of the RHR.

The following summarizes a few key elements of the Section 309 process for the participating Section 309 states:

1. Section 309(d)(4)(i) requires SO_2 milestones in the SIP and includes provisions for making adjustments to these milestones if necessary. The milestones must provide for steady and continuing emission reductions through 2018 and greater reasonable progress than BART.

2. Section 309(d)(4)(iii) requires monitoring and reporting of stationary source SO_2 emissions in order to ensure the SO_2 milestones are met. The SIP must commit to reporting to the WRAP as well as to EPA.

3. Section 309(d)(4)(iv) requires that a SIP contain criteria and procedures for activating the trading program within five years if an annual milestone is exceeded. A Section 309 SIP also must provide assessments in 2013 and 2018.

This report responds to Item 2, above, and provides the annual report that compares the 2010 emissions against the milestones for the states and city that have submitted Section 309 SIPs to EPA.

What Elements Must the Regional SO_2 Emissions and Milestone Report Contain?

To facilitate compliance with the Section 309 SIPs, the WRAP has committed to compiling a regional report on emissions for each year. In accordance with the SIPs, the WRAP will compile the individual state emission reports into a summary report that includes:

1. Reported regional SO_2 emissions (tons/year).

2. Adjustments to account for:

   - Changes in emissions monitoring or calculation methods; or
   - Enforcement actions or settlement agreements as a result of enforcement actions.

3. As applicable, average adjusted emissions for the last three years (which are compared to the regional milestone). Since this is the seventh report, 2008, 2009, and 2010 emissions are averaged.

How Is Compliance with the SO_2 Milestone Determined?

While the WRAP assists with the preparation of this report, each Section 309 state reviews the information in the report, and proposes a draft determination that the regional SO_2 milestone has either been met or exceeded. The draft determination is then submitted for public review and comment during the first part of 2012, culminating in a final report sent to EPA by March 31, 2012.

1.2 Report Organization

This report presents the regional SO_2 emissions and milestone information required by the 309 SIPs for the Section 309 states. The report is divided into the following sections, including two appendices:

- Reported SO_2 Emissions in 2009;
- Monitoring Methodology Emissions Adjustments;
- Three-Year Average Emissions;
- Enforcement Milestone Adjustments;
- Quality Assurance (Including Source Change Information);
- Milestone Determination;
- Appendix A -- Facility Emissions and Emissions Adjustments; and
- Appendix B -- Changes to SO_2 Emissions and Milestone Source Inventory.

2.0 Reported SO_2 Emissions in 2010

All stationary sources with reported emissions of 100 tons or more per year in 2000 or any subsequent year are required to report annual SO_2 emissions. Table 1 summarizes the annual reported emissions from applicable sources in each state. The 2010 reported SO_2 emissions for each applicable source are in Appendix A, Table A-1.

Table 1
Reported 2010 SO_2 Emissions by State

State	Reported 2010 SO_2 Emissions (tons/year)
New Mexico	20,112
Utah	26,317
Wyoming	83,911
TOTAL	130,340

3.0 Monitoring Methodology Emissions Adjustments

The annual emissions reports for each state include proposed emissions adjustments to ensure consistent comparison of emissions to the milestone. The reported emissions are adjusted so that the adjusted emissions levels are comparable to the levels that would result if the state used the same emissions monitoring or calculation method that was used in the base year inventory (2006). The net impact throughout the region as a result of these adjustments is an increase of 784 tons from the reported 2010 emissions. Table 2 summarizes the emissions adjustments made for a total of three facilities.

Table 2
Adjustments for Changes in Monitoring Methodology

State	Source	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	Monitoring Methodology Adjustment (tons)	Description
NM	Giant Industries/Ciniza Refinery (Gallup) [Old name: GIANT REFINING/CINIZA]	430	859	429	Facility changed emissions calculation methodology from annual usage factors to CEMS
UT	Holcim-Devil's Slide Plant	237	306	69	Facility changed emissions calculation methodology from stack test to CEMS.
UT	Holly Refining and Marketing Co. -- Phillips Refinery	231	517	286	Facility changed emissions calculation methodology from stack test to CEMS.

4.0 Three-Year Average Emissions (2008, 2009, and 2010)

The SIPs require multi-year averaging of emissions from 2004 to 2017 for the milestone comparison. From 2005 to 2017, a three-year average (which includes the reporting year and the two previous years) will be calculated to compare with the milestone. The average of the three-years' emissions from 2008 to 2010 is 146,808 tons. Table 3 shows the adjusted emissions for each year and three-year average emissions. The following report sections describe the adjusted milestone determination.

Table 3
Average Sulfur Dioxide Emissions (2008, 2009, & 2010)

Year	Adjusted SO_2 Emissions (tons/year)
2008	165,595
2009	143,704
2010	131,124
Three-Year Average (2008, 2009, 2010)	146,808

5.0 Enforcement Milestone Adjustments

The SIPs require that each state report on proposed milestone adjustments due to enforcement actions, which affect baseline year emissions. The purpose of this adjustment is to remove emissions that occurred above the allowable level in the baseline year from the baseline and the annual milestones. The enforcement milestone adjustments require an approved SIP revision before taking effect.

Enforcement Milestone Adjustment

There were no proposed enforcement action related milestone adjustments reported for 2010.

6.0 Quality Assurance

The states provided 2010 emissions data based on their state emissions inventories. For this report, additional quality assurance (QA) procedures were used to supplement the normal QA procedures the states follow for their emissions inventories. First, each state submitted a source change report, and second, the states compared their inventory data for utility sources against 40 CFR Part 75 Acid Rain Program monitoring data.

6.1 Source Change Report

The SIPs require that this annual SO_2 emissions and milestone report include a description of source changes or exceptions report to identify:

- Any new sources that were not contained in the previous calendar year's emissions report, and an explanation of why the sources are now included in the program;
- Identification of any sources that were included in the previous year's report and are no longer included in the program, and an explanation of why this change has occurred; and
- An explanation for emissions variations at any applicable source that exceeds ± 20% from the previous year.

Table 4 provides explanations for the emissions variations from 2009 – 2010 that are greater than 20%. Plants with variations greater than 20%, but reported emissions of less than 20 tons in both 2009 and 2010, are not included in Table 5. Information on these plants is provided in Appendix A.

Appendix B provides a list of all sources added or removed from the program inventory in previous reporting years. One source was added since the 2008 report.

Table 4
Sources with an Emissions Change of > ± 20% from the Previous Year

State	County FIPS	State Facility Identifier	Reported 2009 SO_2 Emissions (tons)	Reported 2010 SO_2 Emissions (tons)	Plant Name	Description/ Comments
NM	015	350150002	651	786	BP America Production/Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant]	Slight increase due to increase in field gas H2S concentration
NM	015	350150011	0	12	DCP Midstream/Artesia Gas Plant	Maintenance activites occurred on Unit 12 that did not occur in 2009.
NM	025	350250035	479	1,336	DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT]	Fewer release events in 2009 than in 2010.
NM	025	350250060	1,290	875	Targa Midstream Services LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT]	Decrease in volume of acid gas flared from the acid gas flare.
NM	025	350250004	2,605	3,511	Frontier Field Services/Maljamar Gas Plant	In 2010 there was an increase in field gas H2S concentration.
NM	031	350310008	244	430	Giant Industries/Ciniza Refinery (Gallup) [Old name: GIANT REFINING/CINIZA]	Increase in throughput
NM	015	350150008	244	501	Marathon Oil/Indian Basin Gas Plant	SRU was offline Jan-Mar 2010 then operated with reduced plant inlet rate.
NM	015	350150010	60	39	Navajo Refining Co/Artesia Refinery	Excess emissions events in 2010 from the two sources SRU1&2 TGI (H-0473) and the FCC Unit (FCC) Flare (FL-402) resulted in less SO2 emission than in 2009.
NM	045	350450902	5,537	4,312	Public Service Co of New Mexico/San Juan Generating Station	Due to scheduled and unscheduled outages, the Units did not run as much in 2010 as they did in 2009.

Table 4
Sources with an Emissions Change of > ± 20% from the Previous Year

State	County FIPS	State Facility Identifier	Reported 2009 SO_2 Emissions (tons)	Reported 2010 SO_2 Emissions (tons)	Plant Name	Description/ Comments
NM	025	350250008	981	1,878	Southern Union Gas/Jal #3	2010 Operations returned to normal from 2009.
UT	011	10119	842	37	Chevron Products Co. -- Salt Lake Refinery	New controls, decrease in excess emissions and flaring
UT	011	10122	379	280	Flying J Refinery – (Big West Oil)	Decrease in excess emissions, flaring, and amount of sulfur in plant gas.
UT	029	10007	301	237	Holcim-Devil's Slide Plant	Operated shorter hours. Last year mobile emissions were incorrectly included.
UT	011	10123	461	231	Holly Refining – Phillips Refinery	Reduction in excess emissions
UT	007	10081	5,494	7,462	PacifiCorp -- Carbon Power Plant	Burned 24,481 more tons of coal
UT	037	10034	147	82	Patara Midstream LLC (was EnCana Oil & Gas (USA) Incorporated and Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant)	The incinerator was not operated in 2010. New control process is being used at the plant
UT	043	10676	104	60	Utelite Corporation – Shale Processing	Throughput of coal and operation hours decreased
WY	045	0005	2,692	1,525	Black Hills Corporation -- Osage	SO2 emissions decreased due to inactivity
WY	041	0012	25	0	BP America Production Company -- Whitney Facility	SO2 emissions due to decreased upset flaring from the emergency flare
WY	013		971	0	Burlington Resources --Big Horn Wells	SO2 emissions decreased by more than 20% due to decreased field flaring.

Table 4
Sources with an Emissions Change of > ± 20% from the Previous Year

State	County FIPS	State Facility Identifier	Reported 2009 SO_2 Emissions (tons)	Reported 2010 SO_2 Emissions (tons)	Plant Name	Description/ Comments
WY	013	0028	1,683	2,386	Burlington Resources -- Lost Cabin Gas Plant	SO2 emissions increased by more than 20% due to increases in the emissions from the Train 3 Tail Gas Incinerator and the Train 3 Flare. These increases were primarily caused by problems with reaction furnace shutdowns, H2S Compressor shutdowns, and power outages from the local electricity supplier.
WY	041	0009	185	74	Chevron USA -- Carter Creek Gas Plant	SO2 emissions decreased by more than 20% due to the CY 2009 emissions included those from a major plant shutdown and turnaround event which was conducted for maintenance purposes.
WY	037	0014	37	82	Chevron USA -- Table Rock Gas Plant (Formerly Anadarko E&P Co LP)	SO2 emissions increased by more than 20% due to the plant being shut down for most of CY 2009 and being fully operational in CY 2010.
WY	041	0008	1	169	Chevron USA -- Whitney Canyon/Carter Creek Wellfield	SO2 emissions increased by more than 20% due to the testing of Well #1-17M, authorized by waivers wv-10364 and wv-11071 to conduct 2 flow tests on this well.
WY	013	0008	54	96	Devon Gas Services, L.P. -- Beaver Creek Gas Plant	SO2 emissions increased due to changes in the calculation methods and increased flaring in 2010

Table 4
Sources with an Emissions Change of > ± 20% from the Previous Year

State	County FIPS	State Facility Identifier	Reported 2009 SO_2 Emissions (tons)	Reported 2010 SO_2 Emissions (tons)	Plant Name	Description/ Comments
WY	029	0012	1,343	1,029	Encore Operating LP -- Elk Basin Gas Plant	SO2 emissions decreased due to the sulfur reactors being changed out in 2009; emissions dropped 50-100 lb/hr
WY	023	0001	217	14	Exxon Mobil Corporation -- LaBarge Black Canyon Dehydration Facility	No plant shutdown in 2010 for maintenance items and project tie-ins; had a shutdown in 2009 (requires full plant depressurization); increasing reliability and understanding of Acid Gas Injection System
WY	023	0013	1,101	587	Exxon Mobil Corporation -- Shute Creek	No plant shutdown in 2010 for maintenance items and project tie-ins; had a shutdown in 2009 (requires full plant depressurization)
WY	037	0047	58	0	FMC Wyoming Corporation -- Granger Soda Ash Plant	SO2 emissions decreased due to the temporary production curtailment of the FMC Granger facility for inventory control purposes; Zero hours of operation for the coal-fired boilers
WY	021	0001	230	134	Frontier Oil & Refining Company -- Cheyenne Refinery	SO2 emissions decreased by more than 20% due to the Desox catalyst additive usage in the catalytic cracker.
WY	043	3	86	40	Hiland Partners, LLC -- Hiland Gas Plant	SO2 emissions decreased due to decreased flaring in 2010.
WY	029	0010	226	125	Marathon Oil Co -- Oregon Basin Wellfield	SO2 emissions decreased due to more use of underground injetion of gas that reduces the potential to flare.

Table 4
Sources with an Emissions Change of > ± 20% from the Previous Year

State	County FIPS	State Facility Identifier	Reported 2009 SO_2 Emissions (tons)	Reported 2010 SO_2 Emissions (tons)	Plant Name	Description/ Comments
WY	037	8	126	52	Merit Energy Company -- Brady Gas Plant	SO2 emissions decreased by more than 20% due to reduced operating hours of the Ucarsol Regenerator Heater (H-100A). Also, the Benfield Thermal Oxidizer (TO=1) did not operate in 2010.
WY	9	1	17,778	13,322	Pacificorp – Dave Johnston Plant	SO2 emissions decreased due to both a new dry scrubber in Unit 3 and reduced operating hours for Unit 4.
WY	37	1002	17,309	13,654	Pacificorp – Jim Bridger Plant	SO2 emissions decreased due to the installation of Flue Gas Desulfurization sytem upgrades per Air Quality permit MD-1552 on Unit 1.
WY	007	0001	1,999	204	Sinclair Wyoming Refining Company -- Sinclair Refinery	SO2 emissions decreased by more than 20% due to decreased flaring from CY 2009 to CY 2010 in the vertical flare. Also, there was a significant reduction of SO2 emissions in the FCC regenerator per the consent decree.
WY	025	0005	280	205	Sinclair Casper Refining Company -- Casper Refinery	SO2 emissions decreased by more than 20% due to decreased flaring from CY 2009 to CY 2010 in the vertical flare. Also, there was a significant reduction of SO2 emissions in the FCC regenerator per the consent decree.

6.2 Part 75 Data

Federal Acid Rain Program emissions monitoring data (required by 40 CFR Part 75) were used to check reported power plant emissions.

Sources in the region subject to Part 75 emitted 69% of the region's reported emissions in 2010. We compared Acid Rain Program power plant emission data from EPA's Data and Maps website to plant totals reported by each state. The SIPs require the use of Part 75 methods for Part 75 sources. The reported emissions matched EPA's emission data[a].

[a] The reported emissions for Pacificorp's Naughton Plant in WY contain an extra 21 tons of SO2 emissions due to wastewater ponds that are not included in the acid rain data. The reported emissions for the San Juan Generating Station in NM contain 20 tons of SO2 emissions due to emission points that are not included in the acid rain data.

7.0 Preliminary Milestone Determination

The Section 309 state 2010 milestone is 200,722 tons SO_2, which represents the average regional emissions milestone for the years 2008, 2009, and 2010. The average of 2008, 2009, and 2010 adjusted emissions was determined to be 146,808 tons SO_2. Therefore, the participating states have met the 200,722 tons SO_2 milestone.

8.0 Public Comments

New Mexico, Utah, Wyoming and Albuquerque-Bernalillo County each published a draft of this report for public review and comment. No comments were received.

Appendix A

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
NM	015	350150024		Agave Energy Co./Agave Dagger Draw Gas Plant	1311	211111	0	0	-
NM	015	350150002		BP America Production/Empire Abo Plant [Old name: Arco Permian/Empire Abo Plant]	1321	211112	786	786	-
NM	015	350150011		DCP Midstream/Artesia Gas Plant	1321	211112	12	12	-
NM	025	350250044		DCP Midstream/Eunice Gas Plant [Old name: GPM GAS EUNICE GAS PLANT]	1321	211112	2,792	2,792	34
NM	025	350250035		DCP Midstream/Linam Ranch Gas Plant [Old name: GPM GAS/LINAM RANCH GAS PLANT]	1321	211112	1,336	1,336	-
NM	015	350150138		Duke -- Magnum/Pan Energy -- Burton Flats	1321	211112	0	0	-
NM	015	350150285		Duke Energy/Dagger Draw Gas Plant	1321	211112	0	0	-
NM	025	350250060		Targa Midstream Services, LP/Eunice Gas Plant [Old name: WARREN PETROLEUM/EUNICE GAS PLANT]	1321	211112	875	875	-
NM	025	350250004		Frontier Field Services/Maljamar Gas Plant	1321	211112	3,511	3,511	-
NM	031	350310008		Giant Industries/Ciniza Refinery (Gallup) [Old name: GIANT REFINING/CINIZA]	2911	32411	430	859	429

(cont.)

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule (cont.)

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
NM	025	350250007		J L Davis Gas Processing/Denton Plant	1311	211111	577	577	-
NM	015	350150008		Marathon Oil/Indian Basin Gas Plant	1321	211112	501	501	-
NM	015	350150010		Navajo Refining Co/Artesia Refinery	2911	32411	39	39	-
NM	045	350450902	2451	Public Service Co of New Mexico/San Juan Generating Station	4911	221112	4,312	4,312	-
NM	007	350070001		Raton Pub. Service/Raton Power Plant	4911	221112	0	0	-
NM	025	350250008		Southern Union Gas/Jal #3	1321	211112	1,878	1,878	-
NM	025	350250051		Targa Midstream Services, LP/Eunice South Gas Plant	1321	211112	0	0	-
NM	025	350250061		Targa Midstream Services, LP/Monument Plant [Old name: WARREN PETROLEUM/ MONUMENT PLANT]	1321	211112	667	667	-
NM	025	350250063		Targa Midstream Services, LP/Saunders Plant [Old name: WARREN PETROLEUM/SAUNDERS PLANT]	1321	211112	229	229	-
NM	031	350310032	87	Tri-State Gen & Transmission/Escalante Station	4911	221112	1,211	1,211	-
NM	045	350450247		Western Gas Resources/San Juan River Gas Plant	1321	211112	590	590	-

(cont.)

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule (cont.)

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
NM	045	350450023		Western Refining Southwest Inc./San Juan Refinery (Bloomfield) [Old name: GIANT INDUSTRIES/BLOOM FIELD REF]	2911	32411	366	366	-
UT	049	10790		Brigham Young University -- Main Campus	8221	611310	116	116	-
UT	027	10311		Brush Resources Inc. -- Delta Mill	1099	212299	0	0	-
UT	011	10119		Chevron Products Co. -- Salt Lake Refinery	2911	324110	37	37	-
UT	011	10122		Flying J Refinery -- (Big West Oil Company)	2911	324110	280	280	-
UT	027	10313		Graymont Western US Inc. -- Cricket Mountain Plant	1422	212312	10	10	-
UT	029	10007		Holcim-Devil's Slide Plant	3241	327310	237	306	69
UT	011	10123		Holly Refining and Marketing Co. -- Phillips Refinery	2911	324110	231	517	286
UT	027	10327	6481	Intermountain Power Service Corporation -- Intermountain Generation Station	4911	221112	5,000	5,000	-
UT	035	10572		Kennecott Utah Copper Corp. -- Power Plant/Lab/Tailings Impoundment	1021	212234	3046	3046	-
UT	035	10346		Kennecott Utah Copper Corp. -- Smelter & Refinery	3331	331411	795	795	-

(cont.)

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule (cont.)

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
UT	007	10081	3644	PacifiCorp -- Carbon Power Plant	4911	221112	7,462	7,462	-
UT	015	10237	6165	PacifiCorp -- Hunter Power Plant	4911	221112	4,558	4,558	-
UT	015	10238	8069	PacifiCorp -- Huntington Power Plant	4911	221112	3,117	3,117	-
UT	037	10034		Patara Midstream LLC (was EnCana Oil & Gas (USA) Incorporated and Tom Brown Incorporated) - Lisbon Natural Gas Processing Plant	2911	211111	82	82	
UT	007	10096		Sunnyside Cogeneration Associates -- Sunnyside Cogeneration Facility	4911	221112	449	449	-
UT	035	10335		Tesoro West Coast -- Salt Lake City Refinery	2911	324110	837	837	
UT	043	10676		Utelite Corporation -- Shale processing	3295	212399	60	60	-
WY	011	0002		American Colloid Mineral Co -- East Colony	1459	212325	56	56	-
WY	011	0003		American Colloid Mineral Co -- West Colony	1459	212325	42	42	-
WY	031	0001	6204	Basin Electric -- Laramie River Station	4911	221112	9,378	9,378	-
WY	003	0012		Big Horn Gas Proc -- Big Horn/Byron Gas Plant	1311	22121	0	0	-
WY	005	0002	4150	Black Hills Corporation -- Neil Simpson I	4911	22112	956	956	-
WY	005	0063	7504	Black Hills Corporation -- Neil Simpson II	4911	22112	559	559	-

(cont.)

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule (cont.)

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
WY	045	0005	4151	Black Hills Corporation -- Osage Plant	4911	22112	1,525	1,525	-
WY	005	0146	55479	Black Hills Corporation -- Wygen I	4911	22112	539	539	-
WY	005	0225		Cheyenne Light Fuel and Power Company – Wygen II	4911	22112	213	213	-
WY	005	0281		Black Hills Corporation – Wygen III	4911	22112	173	173	-
WY	041	0012		BP America Production Company -- Whitney Facility	1311	211111	0	0	-
WY	041	0002		BP America Production Company -- Whitney Canyon WellField	1300	21111	6	6	-
WY	013	0009		Burlington Resources -- Bighorn Wells	1300	21111	0	0	-
WY	013	0028		Burlington Resources -- Lost Cabin Gas Plant	1311	211111	2,386	2,386	-
WY	041	0009		Chevron USA -- Carter Creek Gas Plant	1311	211111	74	74	-
WY	037	0177		Chevron USA -- Table Rock Field	1300	21111	0	0	-
WY	037	0014		Chevron USA -- Table Rock Gas Plant (Formerly Anadarko E&P Co LP)	1321	211111	82	82	-
WY	041	0008		Chevron USA -- Whitney Canyon/Carter Creek Wellfield	1300	21111	169	169	-
WY	013	0007		Devon Energy Production Co., L.P. -- Beaver Creek Gas Field	1300	21111	1	1	-

(cont.)

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule (cont.)

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
WY	013	0008		Devon Gas Services, L.P. -- Beaver Creek Gas Plant	1311	211111	96	96	-
WY	029	0012		Encore Operating LP -- Elk Basin Gas Plant	1311	211111	1,029	1,029	-
WY	023	0001		Exxon Mobil Corporation -- Labarge Black Canyon Facility	1300	21111	14	14	-
WY	023	0013		Exxon Mobil Corporation -- Shute Creek	1311	211111	587	587	-
WY	037	0048		FMC Corp -- Green River Sodium Products (Westvaco facility)	2812	327999	2,408	2,408	-
WY	037	0049		FMC Wyoming Corporation -- Granger Soda Ash Plant	1474	212391	0	0	-
WY	021	0001		Frontier Oil & Refining Company -- Cheyenne Refinery	2911	32411	124	124	-
WY	037	0002		General Chemical -- Green River Plant (Facility Name: General Chemical)	1474	327999	5,246	5,246	-
WY	043	0003		Hiland Partners, LLC -- Hiland Gas Plant	1321	48621	40	40	-
WY	029	0007		Marathon Oil Co -- Oregon Basin Gas Plant	1321	211112	278	278	-
WY	029	0010		Marathon Oil Co -- Oregon Basin Wellfield	1300	21111	125	125	-
WY	037	0008		Merit Energy Company -- Brady Gas Plant (formerly Anadarko E&P Co LP)	1321	211112	52	52	-

(cont.)

Table A-1
2010 Reported and Adjusted Emissions for Sources Subject to Section 309 -- Regional Haze Rule (cont.)

State	County FIPS	State Facility Identifier	ORIS	Plant Name	Plant SIC	Plant NAICS	Reported 2010 SO_2 Emissions (tons)	Adjusted 2010 SO_2 Emissions (tons)	General New Monitoring Calculation Method Adjustment (tons)
WY	001	0002		Mountain Cement Company -- Laramie Plant	3241	23571	283	283	-
WY	037	0003		P4 Production, L.L.C. -- Rock Springs Coal Calcining Plant	3312	331111	755	755	-
WY	009	0001	4158	Pacificorp - Dave Johnston Plant	4911	221112	13,332	13,332	-
WY	037	1002	8066	Pacificorp -- Jim Bridger Plant	4911	221112	13,654	13,654	-
WY	023	0004	4162	Pacificorp -- Naughton Plant	4911	221112	20,265	20,265	Note: 2010 emissions include 21 tons of SO2 from wastewater ponds that are not included in the acid rain database
WY	005	0046	6101	Pacificorp -- Wyodak Plant	4911	221112	6,768	6,738	-
WY	037	0022		Simplot Phosphates LLC -- Rock Springs Plant	2874	325312	1,499	1,499	-
WY	007	0001		Sinclair Oil Company -- Sinclair Refinery	2911	32411	204	204	-
WY	025	0005		Sinclair Wyoming Refining Company -- Casper Refinery	2911	32411	205	205	-
WY	037	0005		Solvay Chemicals -- Soda Ash Plant (Green River Facility)	1474	325181	44	44	-
WY	015	0001		The Western Sugar Cooperative -- Torrington Plant	2063	311313	148	148	-
WY	001	0005		University of Wyoming -- Heat Plant	8221	61131	74	74	-
WY	045	0001		Wyoming Refining -- Newcastle Refinery	2911	32411	535	535	-

Appendix B

Table B-1
Sources Added to the SO_2 Emissions and Milestone Report Inventory

State	County FIP Code	State Facility ID	Facility Name	Report Year of Change
UT	043	10676	Utelite Corporation -- Shale processing	2003
WY	011	0002	American Colloid Mineral Company -- East Colony	2003
WY	011	0003	American Colloid Mineral Company -- West Colony	2003
WY	037	0014	Chevron USA (previously owned by Anadarko E&P Company LP) -- Table Rock Gas Plant	2003
WY	005	0146	Black Hills Corporation -- Wygen 1	2003
WY	041	0002	BP America Production Company -- Whitney Canyon Well Field	2003
WY	013	0009	Burlington Resources -- Bighorn Wells	2003
WY	037	0177	Chevron USA -- Table Rock Field	2003
WY	041	0008	Chevron USA -- Whitney Canyon/Carter Creek Wellfield	2003
WY	013	0008	Devon Energy Corp. -- Beaver Creek Gas Plant	2003
WY	035	0001	Exxon Mobil Corporation -- Labarge Black Canyon Facility (also identified as Black Canyon Dehy Facility)	2003
WY	013	0007	Devon Energy Corp. -- Beaver Creek Gas Field	2004
WY	005	0225	Cheyenne Light, Fuel and Power (a subsidiary of Black Hills Corporation) -- Wygen II	2008
WY	005	0281	Black Hills Corporation – Wygen III	2010

Table B-2
Sources Removed from the SO_2 Emissions and Milestone Report Inventory

State	County FIP Code	State Facility ID	Facility Name	1998 Baseline Emissions (tons/year)	Reason for Change	Report Year of Change
WY	043	0001	Western Sugar Company -- Worland	154	Emissions did not meet 100 TPY program criteria.	2003
WY	017	0006	KCS Mountain Resources -- Golden Eagle	942	Emissions did not meet 100 TPY program criteria.	2003
WY	003	0017	KCS Mountain Resources -- Ainsworth	845	Closed since 2000.	2003
WY	017	0002	Marathon Oil -- Mill Iron	260	Emissions did not meet 100 TPY program criteria.	2003
UT	049	10796	Geneva Steel -- Steel Manufacturing Facility	881	Plant is shut down and disassembled.	2004
WY	023	0001	Astaris Production -- Coking Plant	1,454	Plant is permanently shut down and dismantled.	2004
ABQ* NM	001	00008	GCC Rio Grande Cement	1,103	Not subject to program after baseline revisions.**	2008
ABQ NM	001	00145	Southside Water Reclamation Plant	120	Not subject to program after baseline revisions.**	2008
NM	023	350230003	Phelps Dodge Hidalgo Smelter	16,000	Facility is permanently closed.	2008
NM	017	350170001	Phelps Dodge Hurley Smelter/Concentrator	22,000	Facility is permanently closed.	2008

* ABQ NM means Albuquerque-Bernalillo County.
** 1998 baseline emissions were based on the facilities' potential to emit (PTE), and not actual emissions. Actual annual emissions have always been below 100 tons. Once the year 2006 baseline became effective, these facilities were removed from the inventory.

Appendix C

Projected Emission Inventory for the Year 2018

State Implementation Plans (SIPs) for Regional Haze submitted under 40 CFR 51.309 require an assessment in 2013 of the likelihood of meeting the regional sulfur dioxide (SO_2) milestone for 2018. The first step in this assessment is the development of a projected inventory for the year 2018 using 2010 as a baseline. The projected inventory must be included in the 2010 milestone report.

The states of New Mexico, Utah, and Wyoming and Albuquerque/Bern alillo County (§309 States) have determined that the 2018 emission projection included in their most recent SIP revision adopted in 2011 is the best current projection for the year 2018. The 2018 emission projection will be used in the 2013 periodic SIP review to evaluate the likelihood of meeting the 2018 milestone.

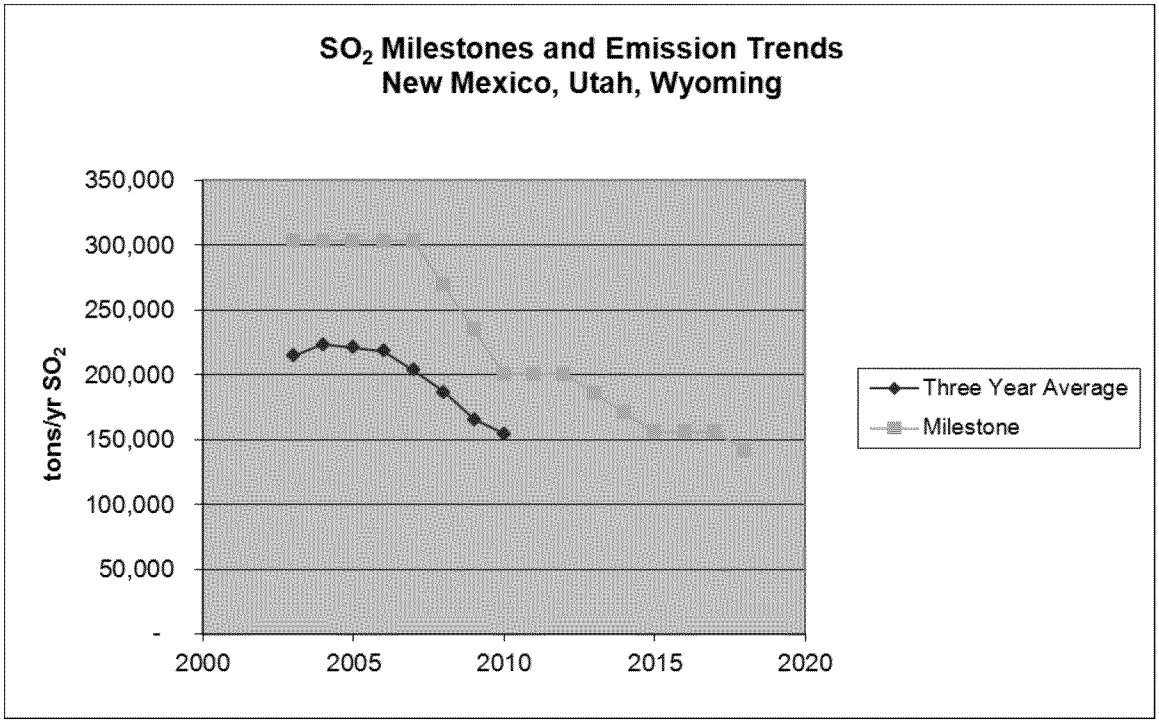
Background

The §309 States first submitted Regional Haze SIPs to the Environmental Protection Agency (EPA) in 2003. These SIPs contained SO_2 milestones and a backstop trading program that would be triggered if the milestones were not met in the 3-state region. The SO_2 milestones were based on *Voluntary Emissions Reduction Program for Major Industrial Sources of Sulfur Dioxide in Nine Western States and A Backstop Market Trading Program, An Annex to the Report of the Grand Canyon Visibility Transport Commission*, September 29, 2000 (the Annex) that was submitted to EPA as required by 40 CFR 51.309.

The Annex contained SO_2 milestones for the years 2003, 2008, 2013, and 2018 to ensure that SO_2 emissions would decline continually through the first planning period as required by the regional haze rule, with the most significant reductions occurring between 2013 and 2018. Because the emission reductions were concentrated during the last years of the program, stakeholders were concerned that the 2018 milestone would not be met. To address these concerns, the Annex included a review in 2013 of the likelihood of meeting the 2018 milestone. If necessary, the §309 States could trigger the backstop trading program proactively to ensure that the 2018 milestone would be met.

The §309 States have been implementing the §309 Regional Haze SIP since 2003. While the Annex anticipated that the emission reductions would occur primarily during the last 5 years of the planning period, the opposite has occurred with most of the reductions occurring during the first 5 years of the planning period. Emissions in the 3-state region have declined 45% between 2000 and 2010, and the region is on track to meet the 2018 milestone.

The milestones in the §309 RH SIPs were revised in 2008 and 2011 to reflect the emission reductions that have already occurred, and there is no longer a significant drop in the milestones between 2013 and 2018.



2011 SIP Revision

The §309 States have recently revised their RH SIPs to update the SO_2 milestones. These revisions were completed in 2011 and included a projected 2018 inventory. The projected inventory was based on the 2018 PRPb inventory developed by the Western Regional Air Partnership (WRAP) to support Regional Haze SIPs in the region. This inventory was reviewed, and additional changes were made to include updated oil and gas projections from the WRAP Phase II oil and gas inventory as well as source-specific updates due to new permit limits. Shut down sources were removed from the inventory and new sources were added to reflect the best available information.

Potential Changes Between 2010 and 2018

There are a number of national measures that may further reduce SO_2 emissions between 2010 and 2018. EPA has recently proposed New Source Performance Standards for the oil and gas industry that may reduce emission in the 3-state region. In addition, revised National Ambient Air Quality Standards for SO_2 may require reductions from the large source of SO_2 that are included in the milestones. The §309 States do not currently anticipate any changes to the assumptions in the 2018 projections that would lead to higher than anticipated emissions growth between 2010 and 2018.

Conclusion

The §309 States have determined that the 2018 emission projection included in their most recent SIP revision adopted in 2011 is the best current projection for the year 2018. The 2018 emission projection will be used in the 2013 periodic SIP review to evaluate the likelihood of meeting the 2018 milestone.